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ABSTRACT

This pilot study investigated characteristics of three groups of sixth, seventh, and eighth grade children (total N=15) in West Virginia: (1) gifted children with learning disabilities (LDG), (2) gifted children without learning disabilities, (3) non-gifted children with learning disabilities (LD). Subjects were assessed on measures of higher cognitive processes (Raven's Progressive Matrices), creativity (Torrance Tests of Creative Thinking), divergent feeling (Exercise in Divergent Feeling), and motivation (Scales for Rating the Behavioral Characteristics of Superior Students). On all measures, the LDG group resembled the gifted group more than they did the learning disabled group. Differences were statistically significant between gifted and LD and between LDG and LD groups on all cognitive characteristics except deductive reasoning and verbal creativity. On several cognitive tests, tests of divergent feelings, and motivation, the average mean of the LDG group exceeded that of the gifted group. Differences among all groups on deductive reasoning, divergent feelings, figural creativity, and motivation, however, were not significant. (19 references) (DB)

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Children Who Are Learning Disabled Gifted : Where Do They Belong?

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Running Head: Learning Disabled/Gifted

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Abstract

Though they have characteristics common to both exceptionalities, Children who are Learning Disabled/Gifted (LDG) are usually known by those they share with the learning disabled population. More than likely, they are identified by the weaknesses they display, and thus are inappropriately served. This pilot study was an investigation of those characteristics they share with children who are gifted through the use of instruments which focus on their strengths instead of weaknesses. Three groups of children in West Virginia who are: Gifted, Learning Disabled/ Gifted (LDG), and Learning Disabled (LD) were assessed on measures of a) Higher Cognitive Processes, b) Creativity, c) Divergent Feeling, and d) Motivation. On all measures, the LDG group resembled the Gifted group more than they did the LD group. Differences were statistically significant between Gifted and LD and between LDG and LD groups on all cognitive characteristics except Deductive Reasoning and Verbal Creativity. On several Cognitive tests, tests of Divergent Feelings, and Motivation, the average mean of the LDG group exceeded that of the Gifted group. Differences among all groups on Deductive Reasoning, Divergent Feelings, Figural Creativity, and Motivation, however, were not significant.

Learning Disabled/Gifted: Where Do They Belong?

Children who are classified as Learning Disabled/Gifted (LDG) are more likely to have been referred for psychoeducational testing because of a suspected learning disability and/or behavior problem than because of evidence of giftedness. Even when perceptive educators discover traits of giftedness, the child is most often given a remedial program and withheld from gifted services, as though an attempt must first be made to cure the handicap. When services are given in learning disability placements of various types, they more than likely include structured, sequential, repetitive instruction needed by the average learning disabled child but frustrating to the gifted child. While LDG youth do need remediation, they also need the same stimulating enrichment activities given their intellectual peers (Baum, 1988; Meisgeier, Meisgeier, & Werblo, 1978, Silverman, 1989). Many LDG children are not receiving services at all because they have not been referred, since they are achieving at grade level and causing no behavior problems (Baum, 1988; Fox, 1983; Ysseldyke, 1983). Given this fact, the 2.3 percent with IQs over 120 found by Mauser (1980) in a study of over 5000 children in classes for the learning disabled, must represent only the tip of the iceberg.

Though children who are gifted with learning disabilities have characteristics common to both exceptionalities, those they have in common with children who are learning disabled are better documented, and include characteristics of aggressiveness, carelessness, and deficiencies in

spelling, reading, and memory (Baum, Emerick, Herman & Dixon, 1989). Typically, the discrepancies are determined by formulas showing uneven performance in aptitude as measured by an IQ test and achievement test performance. There are few studies of traits which LDG have in common with students are gifted. These have been reported, mostly in case studies, to be: abstract and creative thinking, problem solving, high verbal comprehension and conceptualization, and high motivation when challenged by tasks which interest them (Baum, 1988; Daniels, 1983; Hansford, Whitmore, Kraynak, & Wingenback, 1987; Nielson & Mortorff-Albert, 1989; Whitmore & Maker, 1985). More studies, then, focusing on traits LDG have in common with peers who are gifted, through instruments appropriate to measuring those traits, would begin to break down resistance to special services and lead to more systematic ways of identifying youth who are gifted with learning disabilities. The present study was a pilot to investigate instruments more likely to accomplish that than are more traditional methods. It compared three groups of middle school children: a) Gifted, b) Learning Disabled/Gifted (LDG), and d) Learning Disabled (LD), on traits of: a) Higher Cognitive Processes, b) Divergent Feeling, c) Creativity, and d) Motivation.

Method

Subjects

Subjects were 15 sixth, seventh, and eighth grade students enrolled in two schools in a small town in West Virginia. Five were students identified as gifted on the basis of having attained a score of two standard

deviations or more above the mean on an individual IQ test (Policy 2419: Regulations for the Education of Exceptional Students, 1988). Five were students who had been identified as LDG based on either a performance or verbal IQ at or above 130 on the WISC-R, and a severe discrepancy between either verbal or performance scores and reading or mathematics achievement as determined by a multidisciplinary team (Policy 2419, 1988). Five were students identified as LD with IQs within average ranges as determined by an individually administered intelligence test, who showed a severe discrepancy between ability and achievement in reading, mathematics, or written language (Policy 2419, 1988). Discrepancy was determined by a comparison of standard scores on the Verbal, Performance, or Full Scale Wechsler Intelligence Test-Revised (WISC-R) and age-based standard scores on the Woodcock-Johnson Psychoeducational Achievement Battery (Policy 2419, 1988). The magnitude of regression was determined by a regression formula of 1.75 standard deviations difference (WVADD, 1988).

Measures

The four variables examined were Higher Cognitive Abilities, Creativity, Divergent Feeling, and Motivation. These were broken down into 17 subtests shown in Table 1.

Insert Table 1 about here

The Raven's Progressive Matrices (Raven, 1958) is a non-verbal test of observation and clear thinking. It is not a test of "general intelligence."

On each page of the test booklet is a pattern in which a section is missing or there is some type of relationship among figures. The student is required to pick from several possibilities, the one which either completes the pattern or shows a logical relationship to the other figures. Students were given the C and D scales of the Standard form of this test to ensure sufficient difficulty for gifted students and to reduce testing time.

The Ross Test of Higher Cognitive Processes (Ross, 1976), is a test measuring cognitive thinking processes at the higher levels of Bloom's Taxonomy: Analogies, Deductive Reasoning, Missing Premises, Abstract Relations, Sequential Synthesis, Questioning Strategies, Analysis of Relevant and Irrelevant Information, and Analysis of Attributes. Split-half reliability of the Ross is reported to be .92 at better than the .001 level of confidence.

The Torrance Tests of Creative Thinking (Torrance, 1974) are designed to measure Figural and Verbal Creativity. Students were given Activity 2 of the Figural Form A and Activity 3 of Verbal Form A. The figural activity requires students to add anything they wish to a series of incomplete figures. Activity 3 asks students to name as many uses for a cardboard box as they can. A reliability in excess of .90 on the Torrance is reported

The Excercise in Divergent Feeling (Williams, 1980) is a 50-item multiple choice self-report designed to determine how Curious (CU), Imaginative (IM), Complex (CO), and Risk Taking (RT) children believe they

are. Complexity is the attribute of being able to seek many alternatives. Risk Taking is being willing and able to expose oneself to failure and criticism. Curiosity is a measure of inquisitiveness and wonder, and Imagination is the ability to visualize, build mental images, and dream. Moderate reliability in the 60's was reported from Pearson product moment correlations between test and retest.

The Motivation Scale from Scales For Rating The Behavioral Characteristics of Superior Students (Renzulli, Smith, White, Callahan, & Hartman 1976) was used as a measure of motivation and was responded to by the students' teachers. Interjudge reliability of the scale is reported by authors to be .85 which is significant at the .01 level.

Design

The design of the study was a three-group format (between subjects). The three groups were described in the subjects section. The independent variable was subject groups: Gifted (Group I), LDG (Group 2), and LD (Group 3). The dependent variables, shown in Table 1, were described previously with their subscales. Accordingly, there were 17 dependent measures, counting the total score made on the eight subtests of the Ross Test as a separate dependent measure.

Procedure

The three groups of subjects were tested by the authors during two different sessions on three of the major measures, Higher Cognitive Processes, Creativity, and Divergent Feeling. Classroom teachers responded to the fourth major measure, Motivation. Permission to test

was obtained from students, parents, and principals and tests were administered in the library at two different schools. Students were told they would learn about themselves and parents were given a full report of test results.

Results and Discussion

Results

Mean scores shown in Table 2, indicate that those for LDG are closer to

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Insert Table 2 about here

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the group classified as gifted than to the group classified as LD in all cognitive abilities. Although these results are to be expected based upon identification criteria, such comparisons are rarely made or considered in placement decisions for children who are LDG. Additionally, characteristics which are especially encouraged in programs for gifted children, Imagination, Risk Taking, and Complexity also showed higher average means for children who are LDG in this sample than for children who are LD, suggesting such program objectives would certainly be appropriate for children who are LDG.

Children who are LDG tended not to score as well as children who are Gifted in Verbal Creativity but did comparably well in Figural Creativity. Verbal Creativity requires written responses, a task that may penalize

children with a learning disability no matter what their cognitive level.

In order to test whether there were significant differences between groups on any of the dependent measures, one-way analyses of variance were computed. Then, to determine which groups differed where a significant F was obtained, Fisher's PSLD were applied. The results of these analyses are reported in Table 3.

Insert Table 3 about here

There were significant ($p < .05$) differences between groups on all Cognitive measures except Deductive Reasoning: Group 1 > Group 3 and Group 2 > Group 3. Further significant differences were found in Verbal Creativity: Group 1 > Group 3, and Group 2 > Group 3. There were no significant differences between groups in Deductive Reasoning, Figural Creativity, Divergent Feeling, and Motivation.

Conclusion

This pilot study has the potential to contribute useful data to the field of gifted education with several revisions and extensions to be made in a much larger scale study. These are to: 1) use a more complete administration of all parts of the test instruments, 2) accept oral responses on Torrance's Verbal Test when testing students with learning disabilities, and 3) include subjects at younger grade levels. Although sample size, partly due to very few children who are LDG having been identified, is a major limitation, further investi-gation of the major premise is worthwhile. That is, when a variety of measures appropriate to gifted are used, they show

characteristics of youth who are LDG to more closely resemble the population identified as gifted than those identified as learning disabled. If findings described here are more widely confirmed, dual participation in gifted and learning disabilities services may be the best service delivery option for youth who are LDG (Daniels, 1983) and must be made available to them.

Teachers, counselors, and psychologists will need to be aware of these instruments and trained to use and/or encourage their use as alternatives to discrepancy formulas based on traditional aptitude and achievement measures. To do otherwise will continue to result in these students being unchallenged, frustrated, wasting their talents, and achieving far below their ability in regular classrooms or learning disabled resource rooms.

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Table 1

Dependent Variables

Higher Cognitive Abilities

1. Raven's Progressive Matrices
2. Analogies (Ross I)
3. Deductive Reasoning (Ross II)
4. Missing Premises (Ross III)
5. Abstract Relations (Ross IV)
6. Sequential Synthesis (Ross V)
7. Questioning Strategies (Ross VI)
8. Analysis of Relevant and Irrelevant Information (Ross VII)
9. Analysis of Attributes (Ross VIII)
10. Total Ross score

Wiliams Test of Divergent Feeling

11. Curiousity (CU)
12. Risk Taking (RT)
13. Imagination (IM)
14. Complexity (CO)

Torrance Tests of Creativity (TTCT)

15. Figural Creativity
16. Verbal Creativity

Scales for Rating Behavioral Characteristics of Superior Students

17. Motivation

Table 2

Means (M) and Standard Deviations (SD) for All Conditions

Group	Gifted (Group 1)		LD/Gifted (Group 2)		LD (Group 3)	
Dependent Measures	M	SD	M	SD	M	SD
1. Raven's	19.2	2.2	17.4	8.7	8.4	2.3
2. Analogies	11.8	0.8	12.4	0.9	4.2	3.0
3. Deductive Reasoning	14.8	2.3	15.4	4.9	10.6	0.5
4. Missing Premises	5.2	1.1	6.4	2.3	1.8	1.9
5. Abstract Relations	13.0	1.0	12.0	1.6	5.4	2.3
6 Sequential Synthesis	7.2	2.8	6.4	2.3	0.8	0.8
7. Questioning Strategies	9.6	1.8	10.0	2.1	5.8	2.2
8. Analysis of Relevant & Irrel. Information	9.6	1.8	9.8	1.9	3.8	2.3
9. Analysis of Attributes	11.6	1.7	11.4	2.5	7.4	1.3
10. Total Ross	82.8	5.9	83.8	14.6	39.8	8.7

Table 2 continued

11.	Curiosity	16.2	1.5	16.8	4.9	15.2	3.6
12.	Risk Taking	15.0	5.4	17.0	1.4	15.4	3.5
13.	Imagination	17.2	3.4	18.4	3.6	13.2	4.9
14.	Complexity	17.8	3.1	18.4	4.2	15.4	4.6
15.	Figural Creativity	34.0	6.8	31.6	10.4	27.2	6.8
16.	Verbal Creativity	42.2	18.2	26.2	12.0	7.8	5.9
17.	Motivation	18.4	3.8	24.2	5.4	16.4	5.1

Table 3

Results of Analyses of Variance on Fisher's PLSD Multiple Comparison Tests to Determine Differences Amoung Groups

Dependent Measures	F	p	Fisher's PLSD Comparisons
1. Raven's Matrices	5.7	<. 01	1 > 3, 2 > 3
2. Analogies	22.8	<. 01	1 > 3, 2 > 3
3. Deductive Reasoning	2.5	N.S.	
4. Missing Premises	6.1	<. 01	1 > 3, 2 > 3
5. Abstract Relations	22.8	<. 01	1 > 3, 2 > 3
6. Sequential Synthesis	6.9	< .01	1 > 3, 2 > 3
7. Questioning Strategies	6.6	< .01	1 > 3, 2 > 3
8. Analysis Relevant and Irrelevant Information	6.4	< .01	1 > 3, 2 > 3
9. Analysis of Attributes	4.5	< .01	1 > 3, 2 > 3
10. Total Ross	20.6	< .01	1 > 3, 2 > 3
11. Curiosity	0.2	N.S.	
12. Risk Taking	0.3	N.S.	
13. Imagination	1.6	N.S.	
14. Complexity	0.9	N.S.	
15. Figural Creativity	0.5	N.S.	
16. Verbal Creativity	2.9	< .05	1 > 3, 2 > 3
17. Motivation	2.0	N.S.	